

CLAIMS

1. An information output device for outputting information having a hierarchical structure with an aggregate of said information as the unit thereof, comprising:

aggregate output control means for controlling the output of said aggregate based on an event response control program associated with said aggregate which contains said information being output, of event response control programs having described therein a command for an event associated with each of said aggregates, and in correspondence with said event; and

information output control means for controlling the output of said information contained in said aggregate based on ordinal data associated with said aggregate, in which the output thereof has been instructed by said aggregate output control means, of ordinal data having described therein the output order of said information associated with each of said aggregates.

2. An information output device according to claim 1, wherein said aggregate output control means controls the output of said aggregate based on said event response control program associated with said aggregate containing said information being output, and said event response control program associated with said aggregate of the ancestor of said aggregate containing said information being output, and in correspondence with said event.

3. An information output device according to claim 1 or claim 2, further comprising reproduction means for reproducing said information to be output based on the control of said information output control means and in correspondence with the type of said information.

4. An information output device according to any one of claims 1 to 3, further comprising event generation means for acquiring the outside status and generating

said event.

5. An information output device according to any one of claims 1 to 4, further comprising memory control means for controlling the memory of said information, said event response control program, and said ordinal data.

6. An information output device according to any one of claims 1 to 5, further comprising communication control means for controlling the transmission of a request of said aggregate, the reception of which has been instructed by said aggregate output control means, to the information provision device for providing said information, and controlling the reception of said information belonging to said requested aggregate as well as said event response control program and said ordinal data associated with said requested aggregate, provided from said information provision device.

7. An information output device according to any one of claims 1 to 6, wherein said aggregate output control means rewrites said ordinal data.

8. An information output method for outputting information having a hierarchical structure with an aggregate of said information as the unit thereof, comprising:

an aggregate output control step for controlling the output of said aggregate based on an event response control program associated with said aggregate which contains said information being output, of event response control programs having described therein a command for an event associated with each of said aggregates, and in correspondence with said event; and

an information output control step for controlling the output of said information contained in said aggregate based on ordinal data associated with said aggregate, the output of which has been instructed at said aggregate output control step, of the ordinal data having described therein the output order of said information

associated with each of said aggregates.

9. A recording medium having recorded thereon a computer-readable program for making a computer execute processing for controlling the output of information having a hierarchical structure with an aggregate of said information as the unit thereof, said program comprising:

an aggregate output control step for controlling the output of said aggregate based on an event response control program associated with said aggregate which contains said information being output, of event response control programs having described therein a command for an event associated with each of said aggregates, and in correspondence with said event; and

an information output control step for controlling the output of said information contained in said aggregate based on ordinal data associated with said aggregate, the output of which has been instructed at said aggregate output control step, of the ordinal data having described therein the output order of said information associated with each of said aggregates.

10. A computer-readable program for making a computer execute processing for controlling the output of information having a hierarchical structure with an aggregate of said information as the unit thereof, said program comprising:

an aggregate output control step for controlling the output of said aggregate based on an event response control program associated with said aggregate which contains said information being output, of event response control programs having described therein a command for an event associated with each of said aggregates, and in correspondence with said event; and

an information output control step for controlling the output of said information contained in said aggregate based on ordinal data associated with said aggregate, the output of which has been instructed at said aggregate output control

step, of the ordinal data having described therein the output order of said information associated with each of said aggregates.

11. An information reception device for receiving information having a hierarchical structure with an aggregate of said information as the unit thereof, comprising:

aggregate reception control means for controlling the reception of said aggregate based on an event response control program associated with said aggregate, which contains said information being output, of event response control programs having described therein a command for an event associated with each of said aggregates, and in correspondence with said event; and

communication control means for controlling the transmission of the request of said aggregate, the reception of which has been instructed by said aggregate reception control means, to the information provision device for providing said information, and controlling the reception of said information belonging to said requested aggregate and said event response control program associated with said requested aggregate provided from said information provision device.

12. An information reception device according to claim 11, wherein said aggregate reception control means controls the reception of said aggregate based on said event response control program associated with said aggregate containing said information being output, and said event response control program associated with said aggregate of the ancestor of said aggregate containing said information being output, and in correspondence with said event.

13. An information reception device according to claim 11 or claim 12, further comprising memory control means for controlling the memory of said received information and said event response control program.

14. An information reception method for receiving information having a

hierarchical structure with an aggregate of said information as the unit thereof, comprising:

an aggregate reception control step for controlling the reception of said aggregate based on an event response control program associated with said aggregate which contains said information being output, of event response control programs having described therein a command for an event associated with each of said aggregates, and in correspondence with said event; and

a communication control step for controlling the transmission of the request of said aggregate the reception of which has been instructed at said aggregate reception control step, to the information provision device for providing said information, and controlling the reception of said information belonging to said requested aggregate and said event response control program associated with said requested aggregate, provided from said information provision device.

15. A recording medium having recorded thereon a computer-readable program for making a computer execute processing for controlling the reception of information having a hierarchical structure with an aggregate of said information as the unit thereof, said program comprising:

an aggregate reception control step for controlling the reception of said aggregate based on an event response control program associated with said aggregate, which contains said information being output, of event response control programs having described therein a command for an event associated with each of said aggregates, and in correspondence with said event; and

a communication control step for controlling the transmission of the request of said aggregate, the reception of which has been instructed at said aggregate reception control step, to the information provision device for providing said information, and controlling the reception of said information belonging to said

requested aggregate and said event response control program associated with said requested aggregate provided from said information provision device.

16. A computer-readable program for making a computer execute processing for controlling the reception of information having a hierarchical structure with an aggregate of said information as the unit thereof, said program comprising:

an aggregate reception control step for controlling the reception of said aggregate based on an event response control program associated with said aggregate which contains said information being output, of said event response control programs having described therein a command for an event associated with each of said aggregates, and in correspondence with said event; and

a communication control step for controlling the transmission of the request of said aggregate, the reception of which has been instructed at said aggregate reception control step, to the information provision device for providing said information, and controlling the reception of said information belonging to said requested aggregate and said event response control program associated with said requested aggregate provided from said information provision device.

17. An information provision device, comprising:

memory control means for controlling the memory of said information having a hierarchical structure with an aggregate of said information as the unit thereof, and controlling the memory of event response control programs having described therein a command for an event on the reception side associated with each of said aggregates; and

transmission control means for controlling, when said aggregate is requested from said information reception device for receiving said information, the transmission of said information belonging to said requested aggregate and said event response control program associated with said requested aggregate, to said

information reception device.

18. An information provision device according to claim 17, wherein said memory control means further controls the memory of ordinal data having described therein the output order of said information associated with each of said aggregates; and

when said aggregate is requested from said information reception device, said transmission control means further controls the transmission of said ordinal data associated with said requested aggregate to said information reception device.

19. An information provision method, comprising:

a memory control step for controlling the memory of said information having a hierarchical structure with an aggregate of said information as the unit thereof, and controlling the memory of event response control programs having described therein a command for an event on the reception side associated with each of said aggregates; and

a transmission control step for controlling, when said aggregate is requested from said information reception device for receiving said information, the transmission of said information belonging to said requested aggregate and said event response control program associated with said requested aggregate to said information reception device.

20. A recording medium having recorded thereon a computer-readable program, comprising:

a memory control step for controlling the memory of said information having a hierarchical structure with an aggregate of said information as the unit thereof, and controlling the memory of event response control programs having described therein a command for an event on the reception side associated with each of said aggregates; and

a transmission control step for controlling, when said aggregate is requested

from said information reception device for receiving said information, the transmission of said information belonging to said requested aggregate and said event response control program associated with said requested aggregate, to said information reception device.

21. A computer-readable program, comprising:

a memory control step for controlling the memory of said information having a hierarchical structure with an aggregate of said information as the unit thereof, and controlling the memory of event response control programs having described therein a command for an event on the reception side associated with each of said aggregates; and

a transmission control step for controlling, when said aggregate is requested from said information reception device for receiving said information, the transmission of said information belonging to said requested aggregate and said event response control program associated with said requested aggregate, to said information reception device.

22. A program for controlling the output or reception of information having a hierarchical structure with an aggregate of said information as the unit thereof,

wherein said program is associated with a first aggregate, which is an aggregate among said aggregates;

said program is read into the computer for controlling the output or reception of said information when said information belonging to said first aggregate or said information belonging to the aggregate of the descendant of said first aggregate is being output; and

said program makes said computer execute at least one of the output of a second aggregate, which is another aggregate among said aggregates and the reception of said second aggregate when a prescribed event occurs.

23. An information provision system comprising an information provision device for providing information having a hierarchical structure with an aggregate of said information as the unit thereof, and an information reception device for receiving said information;

wherein said information provision device comprises:

memory control means for controlling the memory of said information hierarchical structure, and controlling the memory of event response control programs having described therein a command for an event in the information reception device associated with each of said aggregates; and

transmission control means for controlling, when said aggregate is requested from said information reception device, the transmission of said information belonging to said requested aggregate and said event response control program associated with said requested aggregate to the information reception device ; and

wherein information reception device comprises:

aggregate reception control means for controlling the reception of said aggregate based on an event response control program associated with said aggregate, which contains said information being output, of the event response control programs, and in correspondence with said event; and

communication control means for controlling the transmission of the request of said aggregate, the reception of which has been instructed by said aggregate reception control means, to the information provision device, and controlling the reception of said information belonging to said requested aggregate and said event response control program associated with said requested aggregate, provided from said information provision device.

24. An information provision method, comprising:

a memory control step for controlling the memory of said information having a hierarchical structure with an aggregate of said information as the unit thereof, and controlling the memory of event response control programs having described therein a command for an event in the information reception device associated with each of said aggregates;

a transmission control step for controlling, when said aggregate is requested from said information reception device, the transmission of said information belonging to said requested aggregate and said event response control program associated with said requested aggregate to the information reception device;

an aggregate reception control step for controlling the reception of said aggregate based on an event response control program associated with said aggregate which contains said information being output, of the event response control programs, and in correspondence with said event; and

a communication control step for controlling the transmission of the request of said aggregate, the reception of which has been instructed at said aggregate reception control step, to the information provision device, and controlling the reception of said information belonging to said requested aggregate and said event response control program associated with said requested aggregate provided from said information provision device.